

# Occupational Therapy Catalogue of Orthoses



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# Cervical Orthoses

## Halo vest

**Suggested main use:**

Stable high cervical spine fractures (C2).



**Bremer halo vest system.**

## Cervico-thoracic custom formed orthosis



**Suggested main use:**

High thoracic spine fractures or conditions.

## Temporary Custom Made Helmet

For skull protection, post craniotomy and epilepsy whilst awaiting permanent helmet.

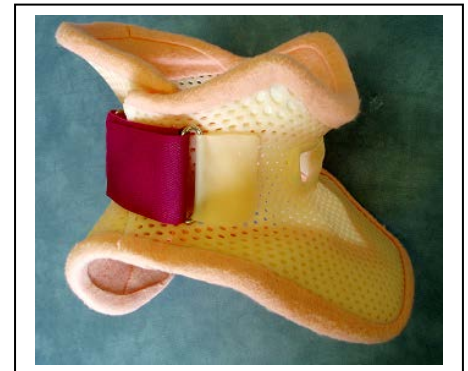


# Cervical Collars

## Rigid dolls collar

### Use:-

Selected cervical fractures/dislocations.  
Following cervical surgery for RA/oncology patients.  
Cervical decompression/laminectomy.  
Burns contracture management.  
Irregular shaped necks and MND patients, where off-the-shelf collars are not suitable.



## Semi-rigid collars

### Use:-

RA patients, *including atlanto-axial instability*.  
Various designs may be produced such as front fastening collars for patients with restricted shoulder movements.  
MND patients, may be used to support head preventing fatigue and/or reduce neck flexion contractures.



**Philadelphia Collar.**



**Custom moulded plastazote Collar**

## Wire frame collars

### Use:-

Rheumatoid Arthritis.

Burns injuries.

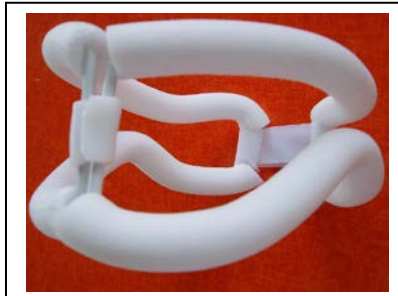
MND.

Contractures.

Wire frame collars provide a high degree of ventilation and may be useful for claustrophobia.



Headmaster Collar



Dalziel wire framed collar

## Cervical Collars: off-the-shelf

### Use:-

Suitable for emergency transport. Certain off-the-shelf collars are more statistically restrictive than others. A Vertebrace collar may be used as a shower collar following cervical internal fixation.



Aspen collar.



Vertebrace collar.

## Soft collars: under chin

A wide range of sizes are available.



Cowley collar.

The collar shown (left) allows a patient with restrictive shoulder movements to apply the collar.



Halton collar.

## Rigid collars: under chin



# Spinal Bracing

## Thoraco-lumbar spinal orthosis (TLSO)

### Use:-

Custom formed. Provides total circumferential support for conservative management of stable spinal injuries, following internal fixation or removal of spinal tumours etc.

May provide pain relief and increase mobility.

The TLSO may be single wrap around, shell type as shown, or over the shoulder type, depending on body shape and level of injury.



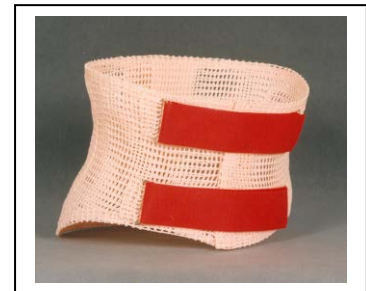
## Lumbar spinal brace

### Use:-

Custom formed. Provides total circumferential support for Conservative management of spinal injuries and following internal fixation.

May provide pain relief and increase mobility.

The brace may be single wrap around as shown, or shell- type depending on body shape and level of injury.

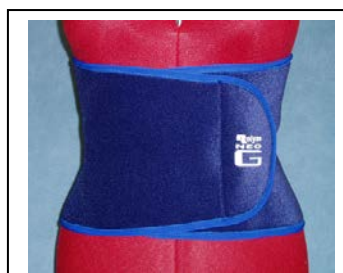


## Lumbar corsets: off-the-shelf

### Use:-

May be effective in control of muscular pain and provide musculocutaneous postural stimulation.

Corsets can be modified to accommodate different body shapes. The corsets may have a custom formed spinal panel insert.





## Other types of custom formed spinal orthoses



Orthoses may be used for interim support in combination with wheelchair seating.



Any shape or size may be accommodated with the method used.

Over-the-shoulder cervicothoracic

## Spinal Thigh Orthosis

### Use:-

To help determine suitability of patients for selected lower back surgery - pain relief when wearing orthosis can indicate that surgery would be beneficial.

The design incorporates a drop-lock hip hinge, which may be fixed in extension or free to allow toileting.



# Hip Orthoses following Hip Dislocation

## Use:-

For patients following multiple hip dislocations or where the hip is deemed unstable. Brace to be worn continually for a minimum of 3 months post dislocation.

Hip hinge can be restricted to allow a specified range of movement – this should be highlighted on the operation sheet.



## Child's Rigid Hip Spica

Can be provided in certain cases where a removable hip spica is required.

# Long Bone Fracture Bracing

## Humeral bracing

### Indications for Humeral bracing

Closed diaphyseal fractures without marked distraction between fragments.

Open fractures without significant soft tissue damage.

Closed fractures associated with initial radial nerve palsy similar to those described above.



## Ulnar bracing

### Indications for Ulnar Bracing

Isolated diaphyseal fractures with no displacement between fragments. Type I and II open fractures that meet the criteria described above. Bilateral closed isolated ulna fractures in patients who have not experienced polytrauma.



## Tibial bracing

### Indications for tibial bracing:

Following application and reduction in initial plaster cast (knee in slight flexion):-

- Selected tibial diaphyseal fractures (particularly low energy) with an associated fibula fracture: 10mm or less of shortening and/or angulations of  $<5$  to  $8^{\circ}$  well aligned and/or including grade 1 open fractures.
- Low energy closed transverse fractures that are either not displaced or have been reduced and made axially stable.
- Low energy closed segmental fractures with minimal displacement between the fragments.



# Knee Bracing

## Hinged Knee Brace

### Indications for Use

Fractures of the tibial plateau with displacement 3mm or less  
Distal femoral fractures following ORIF.  
Following rupture of Quadriceps and/or repair.  
Ligament ruptures of the knee.  
Patellar fractures.

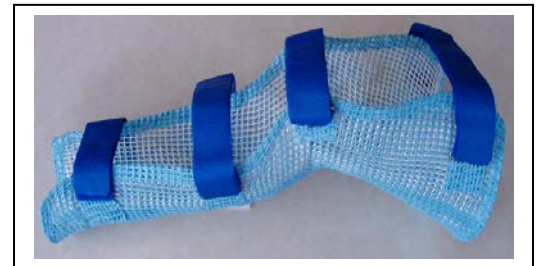
Hinges can be left free or adjusted to allow specified range



## Knee Supports



Custom formed  
cylindrical and half-  
cylindrical orthoses.



## Knee Supports- off the shelf



**Patellar stabilising support**



**Neoprene knee immobiliser**



Unloader



Neoprene hinged knee

## Ankle and foot splints

### Ankle/Foot orthoses

#### Use:-

To maintain foot in neutral position or provide serial stretching of contractures.

#### Note:

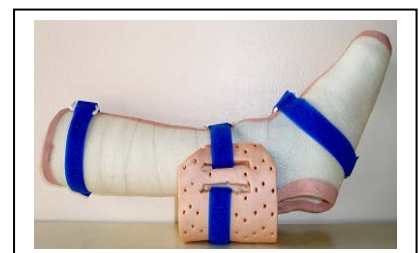
Low temperature orthoses are not suitable for long-term use. For short-term use a splint may be reinforced, providing weight bearing for around 6-weeks.

Anti-rotational bars may be incorporated.



Off-the-shelf Dorsiwedge type

Soft Cast Circular Casting type with heel elevator



## Dynamic foot drop orthosis



This orthosis can be used for patients with mild to moderate foot drop.

## Ankle supports: off-the-shelf



Ankle stirrup for lateral stability



Neoprene ankle support

## Cast Boot



Can be fitted in conjunction with foot splints and foot plates.

## Toe: custom formed



Anti- halux valgus splint – for night use.

## Shoulder Orthoses



Sling for over 30 degrees shoulder abduction.



External Rotation Brace.



Add hoc shoulder orthoses may be designed.



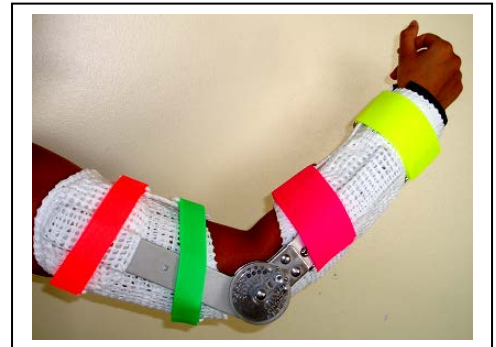
Sling for 45 degrees of shoulder abduction

# Elbow

## Hinged elbow brace

Use:-

Dislocations and elbow injuries, which may need restricted range of movement.



## Elbow supports



Off-the-shelf elbow brace – for restriction in movement where less support is required.



Neoprene elbow sleeve



Long 'Sugar tong' splint



# Mitts/Elbow Restrictors



Mitts and elbow splints may be provided to prevent patients from pulling intubations out or harming themselves.

# Hand Orthoses

## Hand resting splint

### Use:-

To maintain maximum extension of collateral ligaments of the MCP, IP and DIP joints.

Wrist positioned in approx 20-30 degrees of extension, MCPs in approx 70 degrees of flexion, IP and DIPs in full extension.



## Neurological hand splinting

The various types of splints below may be used to assist in various types of Neurological Conditions





## Upper limb splinting

### Principle Indications

Distal radial fractures.

Inflammatory arthritis.

Degenerative osteoarthritis.



## Flexor Tendon Injuries

Various protective splints used in the treatment of flexor tendon injuries of the hand, thumb and wrist.

For complex combined flexor/extensor injuries position to be determined by referring Doctor.



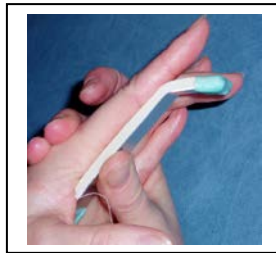


## Extensor Tendon Injuries

Zones 1 and 2 - with or without fracture (mallet finger splint)



Zone 3 (PIP Joint)  
Splint worn for 6 weeks.



Zone 4 to 7 extensor tendon injuries



# Wrist/Thumb Splints



Custom moulded splints with and without thumb

## Fabric wrist/thumb splints: custom made and off-the-shelf

Various fabric and neoprene splints are available for wrist and thumb protection.



Ulnar colateral splints



CMCjoint OA Splints





**Thumb web space stretcher splint to prevent or correct contracture of the first web space.**



## Finger splints Dupuytren's splint

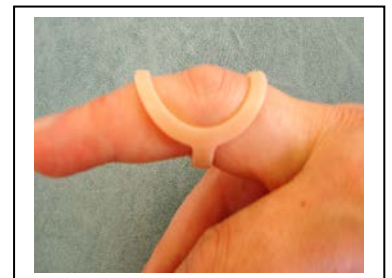
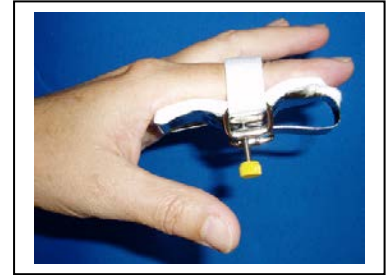
**Application at 2-3 days:-  
Static volar splint - MCPs and IP joints placed in optimum extension.**



**When sutures removed, splint worn overnight for 3-6 months.  
Silicone gel may be provided to help reduce scarring.  
The volar splint may be used for fractures and to reduce flexion contractures.**

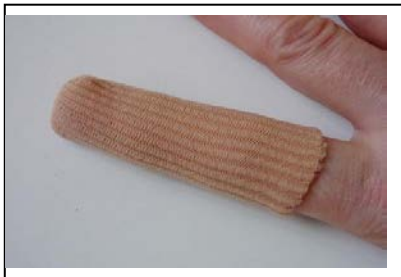
## Dynamic and static progressive finger splints

Various types of static stretch splints available:-



## Finger splints: silicone sleeved

Helps to reduce scarring, moisturizes and protects sensitive scarring.

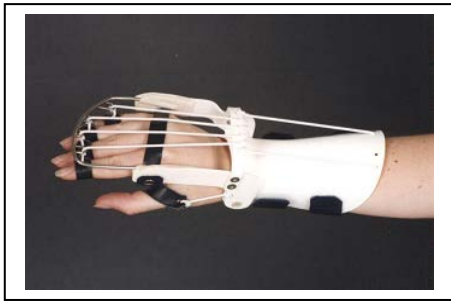


## Nerve Injuries

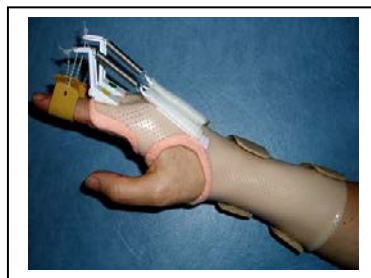
### Ulnar nerve splints



## Radial nerve splints: dynamic



## Dynamic and Static Splints: (joint replacements)



## Carpal Tunnel: wrist silicone gel sleeve

**Helps in daily living activities to reduce scar sensitivity following carpal tunnel release.**

Occupational Therapy Orthotics



# Pressure Garments: made to measure

Pressure garments may be used for burns, scar management and oedema management.





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